## II. CLAIM AMENDMENTS

1.    (Currently Amended) A method of ciphering data transmission in a radio system, comprising:

generating a ciphering key;

producing a ciphering mask in a ciphering algorithm using the ciphering key as an input parameter;

producing ciphering data by applying the ciphering mask to plain data;

using a logical channel specific parameter or a transport channel specific parameter as an additional input parameter to the ciphering algorithm,

wherein the logical channel specific parameter ios one of the following: a Radio Access Bearer Identifier, a Logical Channel Identifier, a Signaling Link Identifier.

2.    (Original) The method as claimed in claim 1, further comprising:

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using the direction of transmission as an additional
input parameter to the ciphering algorithm.

3. (Cancelled)

4. (Currently Amended) ~~The method as claimed in claim 1,~~ A
method of ciphering data transmission in a radio system,
comprising:

generating a ciphering key;

producing a ciphering mask in a ciphering algorithm
using the ciphering key as an input parameter;

producing ciphered data by applying the ciphering mask
to plain data;

using a logical channel specific parameter or a
transport channel specific parameter as an additional
input parameter to the ciphering algorithm,

wherein the transport channel specific parameter is a
Dedicated Channel Identifier.

5. (Cancelled)

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6.(Currently Amended) ~~The method as claimed in claim 5~~ A method of ciphering data transmission in a radio system, comprising:

generating a ciphering key;

producing a ciphering mask in a ciphering algorithm using the ciphering key as an input parameter;

producing ciphered data by applying the ciphering mask to plain data;

using a logical channel specific parameter or a transport channel specific parameter as an additional input parameter to the ciphering algorithm;

using a radio frame specific parameter as an additional input parameter to the ciphering algorithm;

wherein the radio frame specific parameter is a User Equipment Frame Number.

7. (Currently Amended) ~~The method as claimed in claim 1~~,A method of ciphering data transmission in a radio system, comprising:

generating a ciphering key;

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producing a ciphering mask in a ciphering algorithm using the ciphering key as an input parameter;

producing ciphered data by applying the ciphering mask to plain data;

using a logical channel specific parameter or a transport channel speific parameter as an additional input parameter to the ciphering algorithm,

wherein the plain data includes Radio Link Control Layer Protocol Data Units from at least two parallel logical channels, and for each logical channel an individual ciphering mask is produced.

8.    (Original) The method as claimed in claim 7, wherein a Radio Link Control Layer Protocol Data Unit of at least one logical channel is already ciphered, and the step of producing ciphered data is not repeated for said already ciphered Radio Link Control Layer Protocol Data Unit.

9. (Cancelled)

10.   (Currently Amended) ~~The method as claimed in claim 1~~ A method of ciphering data transmission in a radio system, comprising:

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generating a ciphering key;

producing a ciphering mask in a ciphering algorithm using the ciphering key as an input parameter;

producing ciphered data by applying the ciphering mask to plain data;

using a logical channel specific parameter or a transport channel specific parameter as an additional input parameter to the ciphering algorithm,

wherein the plain data includes at least two successive Radio Link Control Layer Protocol Units of one logical channel, and for each Radio Link Control Layer Protocol Data Unit a different part of the ciphering mask is used in producing the ciphered data.

11.  (Currently Amended) ~~The method as claimed in claim 1~~ A method of ciphering data transmission in a radio system, comprising:

generating a ciphering key;

producing a ciphering mask in a ciphering algorithm using the ciphering key as an input parameter;

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producing ciphered data by applying the ciphering mask to plain data;

using a logical channel specific parameter or a transport channel specific parameter as an additional input parameter to the ciphering algorithm,

wherein the plain data includes one Transport Block Set including Medium Access Control Layer Protocol Data Units of at least two different logical channels, and for each Transport Block Set one ciphering mask is used in producing the ciphered data.

12. (Currently Amended) ~~The method as claimed in claim 1~~ A method of ciphering data transmission in a radio system, comprising:

generating a ciphering key;

producing a ciphering mask in a ciphering algorithm using the ciphering key as an input parameter,

producing ciphered data by applying the ciphering mask to plain data;

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using a logical channel specific paramter or a transport channel specific parpmeter as an additional input parameter to the ciphering algorithm,

wherein the plain data includes one Transport Block Set including a Medium Access Control Layer Protocol Data Unit of one logical channel, and for each Transport Block Set one ciphering mask is used in producing the ciphered data.

13. - 15. (Cancelled)

16. (Currently Amended) A user equipment, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

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the ciphering algorithm uses a logical channel specific parameter or transport channel specific parameter as an additional input parameter,

wherein the logical channel specific parameter is one of the following: a Radio Access Bearer Identifier, a Logical Channel Identifier, a Signaling Link Identifier.

17. - 18. (Cancelled)

19.    (Currently Amended) ~~The user equipment as claimed in claim 16~~ A user equipment, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

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the ciphering algorithm uses a logical channel
specific parameter or a transport channel specific
parameter as an additional input parameter,

wherein the transport channel specific parameter is a
Dedicated Channel Identifier.

20.   (Cancelled)

21.   (Currently Amended) ~~The user equipment as claim in claim~~
      ~~20, wherein~~ A user equipment, comprising:

      generating means for generating a ciphering key;

      a ciphering algorithm connected with the generating
      means for producing a ciphering mask using the
      ciphering key as an input parameter;

      ciphering means connected with the ciphering algorithm
      for producing ciphered data by applying the ciphering
      mask to plain data;

      the ciphering algorithm uses a logical channel
      specific parameter or a transport channel specific
      parameter as an additional input parameter;

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wherein the ciphering algorithm uses a radio frame
specific parameter as an additional input parameter,
and

the radio frame specific parameter is a User
Equipment Frame Number.

22. (Currently Amended) ~~The user equipment as claimed in claim
16,~~ A user equipment, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating
means for producing a ciphering mask using the
ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm
for producing ciphered data by applying the ciphering
mask to plain data;

the ciphering algorithm uses a logical channel
specific parameter or a transpoirt channel specific
parameter as an additional input parameter;

wherein the ciphering means accept plain data
including Radio Link Control Layer Protocol Data Units

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from at least two parallel logical channels, and the ciphering algorithm produces for each logical channel an individual ciphering mask, and the ciphering means use for each logical channel the ciphering mask of said channel.

23. (Previously Presented) The user equipment as claimed in claim 22, wherein a Radio Link Control Layer Protocol Data Unit of at least one logical channel is already ciphered, and the ciphering means do not cipher said already ciphered Radio Link Control Layer Protocol Data Unit.

24. (Cancelled)

25. (Currently Amended) ~~The user equipment as claimed in claim 16~~ A user equipment, comprising:~~,~~

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

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the ciphering algorithm uses a logical channel
specific parameter or a transport channel specific
parameter as an additional input parameter,

wherein the ciphering means accept plain data
including at least two successive Radio Link Control
Layer Protocol Data Units on one logical channel, and
the ciphering algorithm produces for said logical
channel an individual ciphering mask, and the
ciphering means use for each Radio Link Control Layer
Protocol Data Unit different part of the ciphering
mask.

26.    (Currently Amended) ~~The user equipment as claimed in claim
16~~ A user equipment, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating
means for producing a ciphering mask using the
ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm
for producing ciphered data by applying the ciphering
mask to plain data;

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the ciphering algorithm uses a logical channel
specific parameter or a transport channel specific
parameter as an additional input parameter,

wherein the ciphering means accept plain data
including one Transport Block Set including Medium
Access Control Layer Protocol Data Units of at least
two different logical channels, and the ciphering
algorithm produces for each Transport Block Set an
individual ciphering mask, and the ciphering means use
for each Transport Block Set one ciphering mask.

27. (Currently Amended) ~~The user equipment as claimed in claim 16~~ A user equipment, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating
means for producing a ciphering mask using the
ciphering key as an input paramter;

ciphering means connected with the ciphering algorithm
for producing ciphered data by applying the ciphering
mask to plain data;

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the ciphering algorithm uses a logical channel specific parameter or a transport channel specific parameter as an additional input parameter,

wherein the ciphering means accept plain data including one Transport Block Set including a Medium Access Control Layer Protocol Data Unit on one logical channel, and the ciphering algorithm produces for each Transport Block Set an individual ciphering mask, and the ciphering means use for each Transport Block Set one ciphering mask.

28.- 30. (Cancelled)

31. (Currently Amended) A **radio** network subsystem, comprising:

generating means for generating a ciphering key (410);

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

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the ciphering algorithm uses a logical channel specific parameter or a transport channel specific parameter as an additional input parameter;

wherein the logical channel specific parameter is one of the following: a Radio Access Bearer Identifier, a Logical Channel Identifier, a Signaling Link Identifier.

32. - 33. (Cancelled)

34. (Currently Amended) ~~The radio network subsystem as claimed in claim 31~~ A radio network subsystem, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

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the ciphering algorithm uses a logical channel
specific parameter or a transport channel specific
parameter as an additional input parameter,

wherein the transport channel specific parameter is a
Dedicated Channel Identifier.

35.    (Cancelled)

36.    (Currently Amended) ~~The radio network subsystem as claimed
in claim 35, wherein~~ A radio network subsystem, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating
means for producing a ciphering mask using the
ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm
for producing ciphered data by applying the ciphering
mask to plain data;

the ciphering algorithm uses a logical channel
specific parameter or a transport channel specific
parameter as an additional input parameter,

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wherein the ciphering algorithm uses a radio frame specific parameter as an additional input parameter, and

the radio frame specific parameter is a User Equipment Frame Number.

37. (Currently Amended) ~~The radio network subsystem as claimed in claim 31~~ A radio network subsystem, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

the ciphering algorithm uses a logical channel specific parameter or a transport channel specific parameter as an additional parameter,

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wherein the ciphering means accept plain data including Radio Link Control Layer Protocol Data Units from at least two parallel logical channels, and the ciphering algorithm produces for each logical channel an individual ciphering mask, and the ciphering means use for each logical channel the ciphering mask of said channel.

38. (Previously Presented) The radio network subsystem as claimed in claim 37, wherein a Radio Link Control Layer Protocol Data Unit of at least one logical channel is already ciphered, and the ciphering means do not cipher said already ciphered Radio Link Control Layer Protocol Data Unit.

39. (Cancelled)

40. (Currently Amended) ~~The radio network subsystem as claimed in claim 31~~ A radio network subsystem, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key an an input parameter;

ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

the ciphering algorithm uses a logical channel specific parameter or a transport channel specific parameter as an additional input parameter,

wherein the ciphering means accept plain data including at least two successive Radio Link Control Layer Protocol Data Units of one logical channel, and the ciphering algorithm produces for said logical channel an individual ciphering mask, and the ciphering means use for each Radio Link Control Layer Protocol Data Unit a different part of the ciphering mask.

41.    (Currently Amended) ~~The radio network subsystem as claimed in claim 31~~ A radio network subsystem, comprising:

generating means for generating a ciphering key;

a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

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ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;


the ciphering algorithm uses a logical channel specific parameter or a transport channel specific parameter as an additional input parameter,


wherein the ciphering means accept plain data including one Transport Block Set including Medium Access Control Layer Protocol Data Units of at least two different logical channels, and the ciphering algorithm produces for each Transport Block Set an individual ciphering mask, and the ciphering means use for each Transport Block Set one ciphering mask.


42.    (Currently Amended) ~~The radio network subsystem as claimed in claim 31~~ A radio network subsystem, comprising:


generating means for generating a ciphering key;


a ciphering algorithm connected with the generating means for producing a ciphering mask using the ciphering key as an input parameter;

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ciphering means connected with the ciphering algorithm for producing ciphered data by applying the ciphering mask to plain data;

the ciphering algorithm uses a logical channel specific parameter or a transport channel specific parameter as an additional input parameter,

wherein the ciphering means accept plain data including one Transport Block Set including a Medium Access Control Layer Protocol Data Unit of one logical channel, and the ciphering algorithm produces for each Transport Block Set an individual ciphering mask, and the ciphering means use for each Transport Block set one ciphering mask.

43.- 45. (Cancelled)

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